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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/936,287	09/12/2001	Gerald A Robinson	36-1491	3980

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EXAMINER

LESNIEWSKI, VICTOR D

ART UNIT PAPER NUMBER

2155

DATE MAILED: 11/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/936,287

**Applicant(s)**

ROBINSON, GERALD A

**Examiner**

Victor Lesniewski

**Art Unit**

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/18/2002</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. This application has been examined.
2. The preliminary amendment filed 9/12/2001 has been placed of record in the file.
3. Claims 1-6 are now pending.

### ***Priority***

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

5. The IDS filed 3/18/2002 has been considered.

### ***Claim Objections***

6. Claim 6 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, amend the claim to place it in proper dependent form, or rewrite the claim in independent form. Claim 6 adds no further limitation to the nodal network of claim 4 by stating only "a communications network comprising interconnected nodes" which limitation is already included in claim 4.

*Claim Rejections - 35 USC § 103*

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rahnema (U.S. Patent Number 5,430,729) in view of the applicant's admitted prior art, WIPO Application of Newbridge Networks Corporation (International Publication Number WO 97/16005), hereinafter referred to as Newbridge.

9. Rahnema disclosed a method for adaptive routing in a communications network including a virtual path embodiment in which each node tracks source-destination routing data by a tag associated with a routing table. In an analogous art, Newbridge disclosed a method for establishing switched virtual circuits in a communications network. Both systems contain routing tables that are accessible by each node and that contain primary and alternate routing choices.

10. Rahnema did not explicitly state a routing step whereby data would be returned to the node from which it was received. However, Newbridge's system does accomplish this task in the form of a crankback message. Since the inventions encompass the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Rahnema by adding the ability to utilize a crankback as provided by Newbridge. Here, the combination satisfies the need for a more efficient routing

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system in avoiding congestion as crankbank allows more options for routing instead of the data packet being discarded. See Newbridge, page 1, lines 6-12.

11. Some claims will be discussed together. Those claims which are essentially the same except that they set forth the claimed invention as a node in a communications network are rejected under the same rationale applied to the described claim.

12. Thereby, the combination of Rahnema and Newbridge discloses:

- <Claims 1, 4, and 6>

A method of routing a message in a communications network of interconnected nodes, the nodes being arranged to generate messages, each message having a destination information element containing the identity of a destination node for that message, a source information element containing the identity of the source node of that message, and a virtual source information element initially containing the identity of that source node (Rahnema, column 15, lines 50-64), and each of the nodes having a respective routing table containing respective entries corresponding to source node/destination node pairs (Rahnema, column 2, lines 3-9), each entry being in the form of a ranked pair of alternative next hop routes (Rahnema, column 15, lines 1-7), the method comprising performing at a said node the steps of: (a) comparing its own node identity with the destination node identity of a message to be routed (Rahnema, figure 10, item 302); and, when it is not the destination node for that message, (b) comparing its own node identity with the virtual source node identity of that message, and, if there is a match at step (b), (c) operating in source mode, else, (d) operating in transit mode (Rahnema, column 15, lines 50-54); wherein step (c) comprises the substeps of (e) accessing its routing table in

accordance with the virtual source node/destination node pair of that message to find the corresponding entry (Rahnema, column 15, lines 54-64), (f) forwarding the message to the higher ranking next hop route of that corresponding entry (Rahnema, figure 10, item 308), and in the event that step (f) fails, (g) forwarding the message to the lower ranking next hop route of that corresponding entry (Rahnema, figure 10, item 310), and in the event that step (g) fails, (h) replacing the content of the virtual source information element of the message with the node identity of the node from which that message was received (Rahnema, column 15, lines 57-61), and (i) sending that message back to that node from which it was received (Newbridge, page 2, lines 11-16); and wherein step (d) comprises the substeps of (j) forwarding the message to a preselected one of the ranked pair of alternative next hop routes of that corresponding entry (Rahnema, column 18, lines 24-36), and in the event that step (j) fails, (k) replacing the content of the virtual source information element of the message with its own node identity and performing step (c) (Rahnema, column 15, lines 57-61).

- <Claim 2>

A method as claimed in claim 1, wherein for each said pair of alternative next hop routes, the two routes are node-disjoint routes (Rahnema, figure 6).

- <Claims 3 and 5>

A method as claimed in claim 1, wherein substep (h) further comprises changing the state of a flag in a crankback information element of the message, and step (f) further comprises an initial substep (l) of checking whether the state of the crankback flag is

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indicative that the higher ranking route has already been attempted for that message

(Newbridge, page 4, lines 6-16).

Since the combination of Rahnema and Newbridge discloses all of the above limitations, claims 1-6 are rejected.

### *Conclusion*

13. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

- Duzett et al. (U.S. Patent Number 5,638,516) disclosed a method for routing messages around blocked or faulty nodes that includes transmitting a ready signal back to the previous node.
- Pang, Vincent Yeow Chieh; and Irvine-Halliday, Dave, "A Fail Safe Temporary Reorganization Procedure for STARMAP Routing Tables in the Event of a Primary Hub or Link Failure," 1996 Canadian Conference on Electrical and Computer Engineering, 26-29 May 1996, Volume 2, pages 976-979, disclosed a method for changing a primary hub routing table if a failed transmission is detected.
- Chung, Jae-Yeul, "A Predictive Alternate Path Routing Scheme Supporting the Best QOS in ATM Networks," 1998 International Conference on Communication Technology Proceedings, 22-24 October 1998, Volume 2, pages S37-08-1 through S37-08-5, disclosed a method for data routing in which intermediate nodes can choose an optimal path using crankback destination nodes.

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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor Lesniewski whose telephone number is 571-272-3987.

The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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